

## **REMARKS**

This is a full and timely response to the outstanding non-final Office Action mailed September 16, 2004. Upon entry of the amendments in this response, claims 1-16 and 31-64 remain pending. In particular, Applicants amend claim 48, add claims 62 – 64, and cancel claims 17 – 30 without prejudice, waiver, or disclaimer. Applicants reserve the right to pursue the subject matter of these canceled claims in a divisional application, if Applicants so choose, and do not intend to dedicate the withdrawn subject matter to the public. Reconsideration and allowance of the application and presently pending claims are respectfully requested. In addition, Applicants do not intend to make any admissions regarding any other statements in the Office Action that are not explicitly referenced in this response

### **I. Indication of Allowable Subject Matter**

The Office Action indicates that claim 48 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants appreciate the recognition of allowability, and in response, amend claim 48 to incorporate all of the limitations of the base claims and intervening claims.

### **II. Election/Restrictions**

The Office Action indicates that restriction to one of the following inventions is required under 35 U.S.C. § 121:

I. Species I: Claims 1 – 16, 31 – 44 and 45 - 61 drawn to “prioritizing based on forecasted usage in increasing order where allocation is based on decreasing order or user priority,” classified in class 370, subclass 468;

II. Species II: Claims 17 - 30 drawn to “no priority (equal access) where allocation based on a defined ratio, classified in class 370, subclass 468

During a telephone conversation with Brook Lafferty on September, 7, 2004 a provisional election was made without traverse to prosecute the invention of Invention I, claims 1 – 16. In addition, the Office Action states that upon further reconsideration after the telephone conversation, the Examiner has also grouped claims 31 – 44 and 45 – 61 with Species I since these claims are similar in view of the teachings of the prior art. Applicants appreciate the Examiner including claims 31 – 44 and 45 – 61 in Group I, and respectfully affirm election without traverse to prosecute Group I claims 1 – 16, 31 – 44, and 45 – 61.

### **III. Voluntary Claim Amendments**

The Office Action recommends Applicants clarify claim 1 to more clearly describe step (b). Applicants appreciate the Examiner’s assistance in advancing prosecution this application. In response, Applicants voluntarily add claims 62 – 64, which depend from claim 1.

### **IV. Drawing Amendments**

Applicants voluntarily amend the drawings to more fully comply with 37 CFR 1.84(p)(3) by enlarging the font on the drawings. Additionally, Applicants voluntarily replace the labels for FIGS. 15a, 15b, 16a and 16b by capitalizing the letter immediately following the final numeral

(e.g., replacing the drawing labels with 15A, 15B, 16A and 16B) in accordance with 37 CFR 1.84(u)(1).

**V. Rejections Under 35 U.S.C. §102**

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. *See, e.g., W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983).

**A. Claim 1 is Patentable over Jorgensen**

The Office Action indicates that claim 1 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”). Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “... a RIMMA MAC IP flow analyzer and flow schedule used to monitor the flows of CPE devices (i.e., monitor network access usage by each user during a time interval) over a shared bandwidth connection in either the uplink or downlink position... In particular, the ‘advanced reservation algorithm’ assigns future slots... from highest to lowest priority... where slots are based on priority such as SLA priorities...” (p. 4, lines 1 – 10). Applicants respectfully disagree with this analysis. Claim 1 recites:

A method of providing network access across a shared communications medium between competing users, comprising the steps of:

(a) monitoring network access usage by each user during a time interval;

(b) based on said monitoring, *forecasting network access usage* by each user over a future time interval;

(c) prioritizing users *based on each user's forecasted network access usage* in increasing order, whereby a user with a lesser forecasted network access usage receives a higher priority than a user with a greater forecasted network access usage; and

(d) allocating network access available to each user during the future time interval in decreasing order of user priority, each user's allocation of network access being equal to each user's forecasted network access usage subject to a respective, predetermined maximum value and subject to availability (claim 1).

*Jorgenson*, however, recites that:

Downlink IP flow analyzer 602... analyzes Internet IP flow 608, VPN IP flow 610 and realtime IP flow 612... IP flow analyzer 602 receives packets and analyzes packet header fields to identify new or existing IP flows. IP flow analyzer 602 can also characterize QoS requirements for the IP flow depending on packet header filed contents. IP flow analyzer 602 can classify the IP flow and associate a given packet with other packets from an existing IP flow and can group together IP flows with similar QoS requirements IP flow analyzer 602 can also present the IP flows to flow scheduler” (col. 47, line 66 – col. 48, line 10).

In addition *Jorgensen* recites that “IP flow analyzer 602 performs the function of identifying, characterizing, classifying, and presenting data packets to a downlink frame scheduler” (col. 49, lines 27 – 29).

As illustrated above, IP flow analyzer 602 does not “monitor network access usage by each user during a time interval...” (claim 1) as recited by the Office Action. Nor does IP flow analyzer 602 “forecast network access usage by each user [based on said monitoring]... over a future time interval...” (claim 1). In fact, *Jorgensen* fails to disclose, teach, or suggest monitor network access usage by each user during a time interval...” or “... forecasting network access usage by each user over a future time interval [based on said monitoring]...” (claim 1).

Additionally, *Jorgensen* fails to disclose, teach, or suggest “prioritizing users based on each user’s *forecasted network access usage* in increasing order, whereby a user with a lesser

forecasted network access usage receives a higher priority than a user with a greater forecasted network access usage...” (claim 1) or “allocating network access available to each user during the future time interval in decreasing order of user priority, each user’s allocation of network access begin equal to each user’s forecasted network access usage subject to a respective, predetermined maximum value an subject to availability” (claim 1).

*Jorgensen* recites that “[i]n the present invention, an advanced reservation algorithm assigns future slots to data packets based on the priority of the IP data flow with which the packet is associated” (col. 60, lines 18 – 21). *Jorgensen* further recites that:

“[b]lock diagram 800 lists an exemplary set of priorities 812 used by downlink flow scheduler 604 to place received data packets into priority class queues. Listed are the following set of example priorities: latency-sensitive, UDP priority 812a, high priority 812b, intermediate priority 812c, initial hypertext transfer protocol (HTTP) screens priority 812d, latency-neutral priority 812e, file transfer protocol (FTP), simple mail transfer protocol (SMTP) and other e-mail traffic priority 812f and low priority 812g” (col. 60, lines 29 – 37).

However, none of these priority listings disclose, teach, or suggest “prioritizing users based on each user’s *forecasted network access usage...*” (claim 1). Further, *Jorgensen*’s reference to “SLA priority levels” in column 52, line 16, refers to prioritizing bandwidth use based on “service agreements... entered into between a telecommunications service provider and a subscriber whereby a specified level of network availability can be described, and access charges can be based upon the specified level” (col. 14, lines 37 – 41). This is not to be confused with “prioritizing users based on each user’s *forecasted network access usage...*” as recited in claim 1. For at least these reasons, claim 1 is patentable over *Jorgensen*.

**B. Claim 9 is Patentable over *Jorgensen***

The Office Action indicates that claim 9 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”). Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to claims 9 – 13, data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units transmitted from and to each user during a time interval” (claim 9). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 9. For at least these reasons, claim 9 is patentable over *Jorgensen*.

**C. Claim 10 is Patentable over *Jorgensen***

The Office Action indicates that claim 10 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to claims 9 – 13, data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped

connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets transmitted from and to each user during a time interval” (claim 10). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 10. For at least these reasons, claim 10 is patentable over *Jorgensen*.

**D. Claim 11 is Patentable over *Jorgensen***

The Office Action indicates that claim 11 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to claims 9 – 13, data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time

interval” (claim 11). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 11. For at least these reasons, claim 11 is patentable over *Jorgensen*.

**E. Claim 12 is Patentable over *Jorgensen***

The Office Action indicates that claim 12 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to claims 9 – 13, data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time interval” (claim 12). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 12. For at least these reasons, claim 12 is patentable over *Jorgensen*.

**F. Claim 13 is Patentable over *Jorgensen***

The Office Action indicates that claim 13 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does



not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to claims 9 – 13, data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are requested to be transmitted in the upstream direction during a time interval” (claim 13). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 13. For at least these reasons, claim 13 is patentable over *Jorgensen*.

**G. Claim 31 is Patentable over *Jorgensen***

The Office Action indicates that claim 31 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “... a RIMMA MAC IP flow analyzer and flow schedule used to monitor the flows of CPE devices (i.e., monitor network access usage by each user during a time interval) over a shared bandwidth connection in either the uplink or down link position... In particular, the ‘advanced reservation algorithm’ assigns future slots... from highest to lowest priority... where slots are based on

priority such as SLA priorities...” (p. 4, lines 1 – 10). Applicants respectfully disagree with this analysis. Claim 31 recites:

A method of providing network access across a shared communications medium between competing users, comprising the steps of:

- (a) charging each user a respective fee for network access usage;
- (b) *monitoring network access usage* by each user during a time interval;
- (c) based on said monitoring, *forecasting network access usage* by each user over a future time interval;
- (d) prioritizing users based on each user's fee in decreasing order, whereby a user having a greater fee receives a higher priority than a user having a lesser fee; and
- (e) allocating network access available to each user during the future time interval in decreasing order of user priority, each user's allocation of network access being equal to each user's forecasted network access usage subject to a respective, predetermined maximum value and subject to availability.

*Jorgenson*, however, recites that:

Downlink IP flow analyzer 602... analyzes Internet IP flow 608, VPN IP flow 610 and realtime IP flow 612... IP flow analyzer 602 receives packets and analyzes packet header fields to identify new or existing IP flows. IP flow analyzer 602 can also characterize QoS requirements for the IP flow depending on packet header filed contents. IP flow analyzer 602 can classify the IP flow and associate a given packet with other packets from an existing IP flow and can group together IP flows with similar QoS requirements IP flow analyzer 602 can also present the IP flows to flow scheduler” (col. 47, line 66 – col. 48, line 10).

In addition *Jorgensen* recites that “IP flow analyzer 602 performs the function of identifying, characterizing, classifying, and presenting data packets to a downlink frame scheduler” (col. 49, lines 27 – 29).

As illustrated above, IP flow analyzer 602 does not “*monitor network access usage* by each user during a time interval...” (claim 31) as recited by the Office Action. Nor does IP analyzer 602 “*forecast... network access usage* by each user over a future time interval [based on

said monitoring]...” (claim 31). In fact, *Jorgensen* fails to disclose, teach, or suggest **monitoring network access usage** by each user during a time interval...” or “...based on said monitoring, **forecasting network access usage** by each user over a future time interval...” (claim 31). For at least this reason, claim 31 is patentable over *Jorgensen*.

#### **H. Claim 37 is Patentable over *Jorgensen***

The Office Action indicates that claim 37 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”). Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 37 – 41], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units transmitted from and to each user during a time interval” (claim 37). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 37. For at least these reasons, claim 37 is patentable over *Jorgensen*.

**I. Claim 38 is Patentable over *Jorgensen***

The Office Action indicates that claim 38 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 37 – 41], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets transmitted from and to each user during a time interval” (claim 38). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 38. For at least these reasons, claim 38 is patentable over *Jorgensen*.

**J. Claim 39 is Patentable over *Jorgensen***

The Office Action indicates that claim 39 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 37 – 41], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of

dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time interval” (claim 39). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 39. For at least these reasons, claim 39 is patentable over *Jorgensen*.

**K. Claim 40 is Patentable over *Jorgensen***

The Office Action indicates that claim 40 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 37 – 41], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time

interval” (claim 40). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 40. For at least these reasons, claim 40 is patentable over *Jorgensen*.

**L. Claim 41 is Patentable over *Jorgensen***

The Office Action indicates that claim 41 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 37 – 41], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are requested to be transmitted in the upstream direction during a time interval” (claim 41). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 41. For at least these reasons, claim 41 is patentable over *Jorgensen*.

**M. Claim 45 is Patentable over *Jorgensen***

The Office Action indicates that claim 45 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that "... a RIMMA MAC IP flow analyzer and flow schedule used to monitor the flows of CPE devices (i.e., monitor network access usage by each user during a time interval) over a shared bandwidth connection in either the uplink or down link position... In particular, the 'advanced reservation algorithm' assigns future slots... from highest to lowest priority... where slots are based on priority such as SLA priorities..." (p. 4, lines 1 – 10). Applicants respectfully disagree with this analysis. Claim 45 recites:

A method of providing network access across a shared communications medium between competing users, comprising the steps of:

(a) applying respective credits to users for network access shortfalls below respective levels of network access specified to the users;

(b) monitoring *network access usage* by each user during a past time interval;

(c) based on said monitoring, *forecasting network access usage* by each user over a future time interval;

(d) prioritizing users based on each user's respective credit in decreasing order, whereby a user having a greater credit receives a higher priority than a user having a lesser credit; and

(e) allocating network access available to each user during the future time interval in decreasing order of user priority, each user's allocation of network access being equal to each user's forecasted network access usage subject to a respective, predetermined maximum specified value and subject to availability.

*Jorgenson*, however, recites that:

Downlink IP flow analyzer 602... analyzes Internet IP flow 608, VPN IP flow 610 and realtime IP flow 612... IP flow analyzer 602 receives packets and analyzes packet header fields to identify new or existing IP flows. IP flow analyzer 602 can also characterize QoS requirements for the IP flow depending on packet header filed contents. IP flow analyzer 602 can classify the IP flow and associate a given packet with other packets from an existing IP flow and can group together IP flows with similar QoS requirements IP flow analyzer 602 can also present the IP flows to flow scheduler" (col. 47, line 66 – col. 48, line 10).

In addition *Jorgensen* recites that “IP flow analyzer 602 performs the function of identifying, characterizing, classifying, and presenting data packets to a downlink frame scheduler” (col. 49, lines 27 – 29).

As illustrated above, IP flow analyzer 602 does not “*monitor network access usage* by each user during a time interval...” (claim 45) as recited by the Office Action. Nor does IP analyzer 602... “*forecast network access usage* by each user over a future time interval [based on said monitoring]...” (claim 45). In fact, *Jorgensen* fails to disclose, teach, or suggest “applying respective credits to users for network access shortfalls below respective levels of network access specified to the users; [or] monitoring network access usage by each user during a past time interval...[or] forecasting network access usage by each user over a future time interval [based on said monitoring]...” (claim 45).

Finally, *Jorgensen* fails to disclose “prioritizing users based on each user’s respective credit in decreasing order, whereby a user having a greater credit receives a higher priority than a user having a lesser credit...” (claim 45) or “allocating network access available to each user during the future time interval in decreasing order of user priority, each user’s allocation of network access being equal to each user’s forecasted network access usage subject to a respective, predetermined maximum specified value and subject to availability” (claim 45).

*Jorgensen* recites that “[i]n the present invention, an advanced reservation algorithm assigns future slots to data packets based on the priority of the IP data flow with which the packet is associated” (col. 60, lines 18 – 21). *Jorgensen* further recites that

“[b]lock diagram 800 lists an exemplary set of priorities 812 used by downlink flow scheduler 604 to place received data packets into priority class queues. Listed are the following set of example priorities: latency-sensitive, UDP priority 812a, high priority 812b, intermediate priority 812c, initial hypertext transfer protocol (HTTP) screens priority 812d,



latency-neutral priority 812e; file transfer protocol (FTP), simple mail transfer protocol (SMTP) and other e-mail traffic priority 812f and low priority 812g” (col. 60, lines 29 – 37).

However, none of these priority listings disclose, teach, or suggest “prioritizing users based on each user's respective credit in decreasing order, whereby a user having a greater credit receives a higher priority than a user having a lesser credit...” (claim 45). Further, *Jorgensen*’s reference to “SLA priority levels” in column 52, line 16, refers to prioritizing bandwidth use based on “service agreements... entered into between a telecommunications service provider and a subscriber whereby a specified level of network availability can be described, and access charges can be based upon the specified level” (col. 14, lines 37 – 41). This is not to be confused with “prioritizing users based on each user's respective credit in decreasing order, whereby a user having a greater credit receives a higher priority than a user having a lesser credit...” as recited in claim 45. For at least these reasons, claim 45 is patentable over *Jorgensen*.

**N. Claim 54 is Patentable over *Jorgensen***

The Office Action indicates that claim 54 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 54 – 58], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which

teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units transmitted from and to each user during a time interval” (claim 54). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 54. For at least these reasons, claim 54 is patentable over *Jorgensen*.

**O. Claim 55 is Patentable over *Jorgensen***

The Office Action indicates that claim 55 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 54 – 58], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets transmitted from and to each user during a time interval” (claim 55). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 55. For at least these reasons, claim 55 is patentable over *Jorgensen*.

**P. Claim 56 is Patentable over Jorgensen**

The Office Action indicates that claim 56 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 54 – 58], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are dropped during a time interval” (claim 56). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 56. For at least these reasons, claim 56 is patentable over *Jorgensen*.

**Q. Claim 57 is Patentable over Jorgensen**

The Office Action indicates that claim 57 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 54 – 58], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of

dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of bytes and data packets of the user that are dropped during a time interval” (claim 57). Further, nowhere else does *Jorgensen* disclose, teach, or suggest all the elements of claim 57. For at least these reasons, claim 57 is patentable over *Jorgensen*.

**R. Claim 58 is Patentable over *Jorgensen***

The Office Action indicates that claim 58 stands rejected under 35 U.S.C. §102(b) as being anticipated by U.S. patent number 6,680,922 to Jorgensen, et al. (“*Jorgensen*”).

Applicants respectfully traverse this rejection on the grounds that the *Jorgensen* reference does not disclose, teach, or suggest all of the claimed elements. The Office Action recites that “[a]s to [claims 54 – 58], data is collected from each user which includes data representative of the number of logical data units transmitted the number of bytes and data packets, and the number of dropped connections as part of the QoS for the connection, see e.g., columns 11 – 14 which teaches monitoring errors, bytes, packets, drop-outs, and connections as part of the QoS” (p. 4, lines 17 – 12).

Applicants respectfully disagree with this analysis. Nothing in columns 11 – 14 relate to a method “wherein said step of monitoring network access usage includes collecting data representative of the number of logical data units of the user that are requested to be transmitted in the upstream direction during a time interval” (claim 58). Further, nowhere else does

*Jorgensen* disclose, teach, or suggest all the elements of claim 58. For at least these reasons, claim 58 is patentable over *Jorgensen*.

**S. Claims 4, 7, 9 – 16, 32, 35, 37 – 44, 49, 52, and 54 – 61 are Patentable over *Jorgensen***

In addition, dependent claims 4, 7, and 9 – 16 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. Further, dependent claims 32, 35, and 37 – 44 are believed to be allowable for at least the reason that they depend from allowable independent claim 31. Finally, dependent claims 49, 52, and 54 – 61 are believed to be allowable for at least the reason that they depend from allowable independent claim 45. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**VI. Rejections Under 35 U.S.C. §103**

In order for a claim to be properly rejected under 35 U.S.C. §103, the teachings of the prior art reference must suggest all features of the claimed invention to one of ordinary skill in the art. *See, e.g., In re Dow Chemical*, 837 F.2d 469, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988); *In re Keller*, 642 F.2d 413, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981). Further, “[t]he PTO has the burden under section 103 to establish a prima facie case of obviousness. It can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**A. Claims 5, 6, 8, 33, 34, 36, 50, 51, and 53 are Patentable over *Jorgensen***

Dependent claims 5, 6, and 8 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. Further, dependent claims 33, 34, and 36 are believed to be allowable for at least the reason that they depend from allowable independent claim 31. Finally, dependent claims 50, 51, and 53 are believed to be allowable for at least the reason that they depend from allowable independent claim 45. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

**B. Claims 2, 3, 46, and 47 are Patentable over *Jorgensen*, further in view of *Hanko***

The Office further Action indicates that claims 2, 3, 46, and 47 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Jorgensen* in view of U.S. Patent No. 6,438,141 to *Hanko*, et al. ("*Hanko*"). Applicants respectfully traverse this rejection on the grounds that *Jorgensen*, further in view of *Hanko* fails to disclose, teach or suggest all of the claimed elements of claims 2, 3, 46 and 47. Dependent claims 2 and 3 are believed to be allowable for at least the reason that these claims depend from allowable independent claim 1. Further, dependent claims 46 and 47 are believed to be allowable for at least the reason that they depend from allowable independent claim 45. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

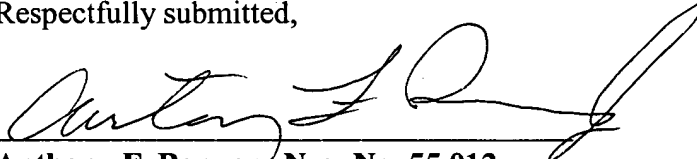
**VII. Cited Art Made of Record**

The cited art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

## CONCLUSION

In light of the foregoing amendments and for at least the reasons set forth above, Applicants respectfully submit that all objections and/or rejections have been traversed, rendered moot, and/or accommodated, and that the now pending claims 1 – 16 and 31 – 61 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned attorney at (770) 933-9500.

Respectfully submitted,



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